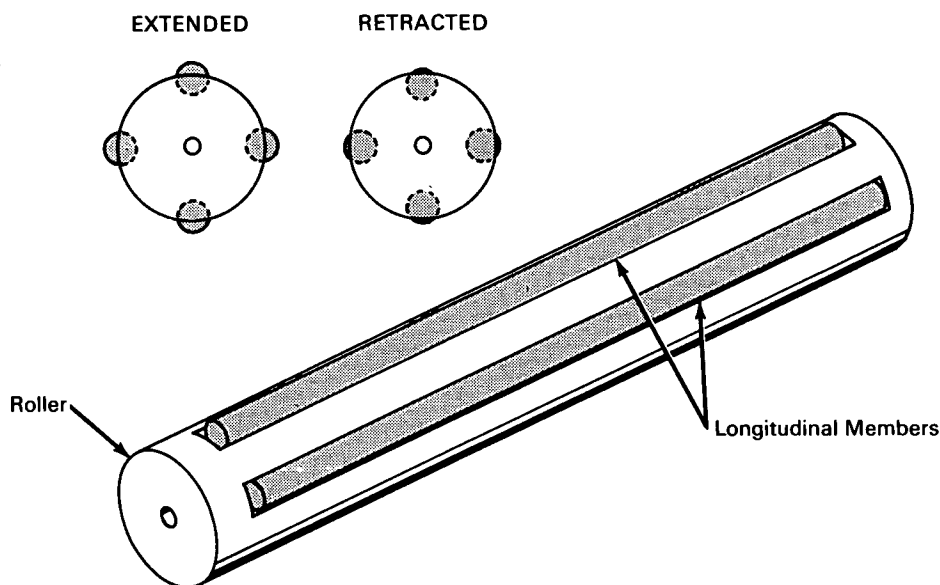


# NASA TECH BRIEF



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## Expandable Takeup Reel Facilitates Paper Tape Removal



### The problem:

In the past, paperboard tubes have been placed over end plugs or plates in order to receive tapes or continuous paper charts or readouts as they are fed out of data recording machines. This arrangement makes it very difficult to remove the paper from the tubes as the inside diameter of the paper roll closely approximates the outside diameter of the paperboard tube.

### The solution:

A roller that is recessed to receive four longitudinal members about its periphery. The longitudinal members are cam-mounted so they may be extended or

retracted to change the overall diameter of the assembly.

### How it's done:

The takeup reel has a cam arrangement at either end and four longitudinal recesses arranged equidistant about its periphery. A bar is fitted into each recess to engage the cam at either end of the reel.

In operation, the cams are actuated to move the bars out from the reel body to give the assembly its largest diameter and the readout paper is installed. After the paper has been paid out onto the takeup reel, the cams are actuated to retract the four bars, one end of the assembly is detached from the recording device and the paper roll is easily removed.

(continued overleaf)

**Note:**

Inquiries concerning this innovation may be directed to:

Technology Utilization Officer  
Western Operations Office  
150 Pico Boulevard  
Santa Monica, California 90406  
Reference: B66-10399

**Patent status:**

No patent action is contemplated by NASA.

Source: Herbert E. Westerman et al  
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